

### Abstract

In a modular data acquisition system (4), a module comprises at least one analog-to-digital converter (12) for converting an analog input signal (IN1, IN2, IN3, IN4) into a digital signal (OUT1, OUT2, OUT3, OUT4),  
 5 and a clock generating circuit (20) for supplying an internal clock signal (209). The module further comprises a connector for plugging in a removable connecting element (3) on the front side of the module (1) in order to connect it to a synchronization bus connecting several modules in said system.

10 A clock selecting circuit (204) enables the selection of either a slave-clock status, wherein the converters (12) are synchronized by an external synchronization signal supplied by said synchronization bus, or of a master-clock status, wherein the converters are synchronized by said internal clock signal which is also used a external synchronization signal on  
 15 said synchronization bus. Trigger signals can also be transmitted by the synchronization bus and by the connecting elements.

(Fig. 1)